

***Verticordia mirabilis* (Myrtaceae: Chamelaucieae), a striking new species
from the Gibson Desert, Western Australia**

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Abstract

George, E.A. and George, A.S. *Verticordia mirabilis* (Myrtaceae: Chamelaucieae), a striking new species from the Gibson Desert, Western Australia. *Nuytsia* 13 (3): 465–469 (2001). *Verticordia mirabilis* Elizabeth A. George & A.S. George (sect. *Integripetala* A.S. George) is described and illustrated. Known from a single locality, it has conservation priority. Together with *V. jamiesonii* F.Muell., which was collected at the same locality, it represents the first record of the genus for the central Australian deserts.

Introduction

The recent collection of two species of *Verticordia* DC. (Myrtaceae) in the Gibson Desert, one a distinctive new species and the other a highly disjunct locality for *V. jamiesonii* F.Muell., is of some phytogeographic interest. There has been no previous record of the genus from the central deserts of Western Australia, although *V. forrestii* F.Muell., *V. serotina* A.S.George, *V. interioris* C.A.Gardner ex A.S.George, *V. helmsii* S.Moore and *V. jamiesonii* occur in the Eremaean Botanical Province, *V. helmsii* growing close to the southern margin of the Great Victoria Desert at Queen Victoria Spring. The genus occurs mainly in south-western Western Australia, in a mediterranean climate, with several species in the monsoonal tropical north and two in the north-west where the rainfall is lower and less reliable. The new species described in this paper, and the outlying population of *V. jamiesonii*, are probably relicts from a wetter period that have adapted to survival in suitable habitats. Several other genera are represented by similar relict species, e.g. *Calytrix*, also of tribe Chamelauciae (Craven 1987).

Verticordia mirabilis* Elizabeth A. George & A.S. George, *sp. nov.

Verticordiae interiori C.Gardner ex A.S.George affinis, a qua floribus majoribus vinosis, hypanthio obscure 5-costato et tumoribus 5 instructo, sepalis lobis reflexis instructis, petalis non unguiculatis, et stylo longiore, praecipue differt. Flores 20–23 mm diam.; hypanthium 4–5 mm longum; sepala 10–11 mm longa; petala 8–11 mm longa; stylus 16–20 mm longus, barba pilis simplicibus; ovula 6.

Typus: c. 115 km S of Warburton, Western Australia, 8 October 1999, E.A. George 1/99 *et al.* (*holo*: PERTH).

Shrub to 30–60 cm (1 m) tall, bushy and spreading, to 60 cm wide, multi-stemmed from base, divaricately branched. *Leaves* crowded on side branches, semi-terete to triquetrous, thickened upwards, 3–6.5 mm long, concave abaxially, obtuse or with a small mucro, glandular, dull grey-green; margins erose towards apex. *Flowers* few in upper axils, at anthesis 20–23 mm diam. *Peduncles* stout, flared at apex, 2–3 mm long, glandular. *Bracteoles* free, not keeled, not cuspidate, caducous, glandular outside; margins \pm erose. *Hypanthium* turbinate, 5-ribbed, with 5 large swellings below apex, glabrous but glandular, 4–5 mm long. *Sepals* on a broad claw; lamina 10–11 mm long, c. 16 mm wide, deeply fimbriate, with 6–8 primary lobes; primary auricles reflexed over hypanthium, broad, lobed and deeply fringed, pale pink; secondary auricles slender, fringed with a few long hairs. *Petals* shortly united with androecium, 8–11 mm long; lamina ovate, entire or erose, spreading widely, dark burgundy red. *Stamens and staminodes* united for c. 1/3 their length, prominently glandular; stamens 10 fertile, bent outwards; anthers oblong, opening by parallel slits, facing upwards or outwards, 0.8–1.5 mm long; staminodes \pm subulate, slightly exceeding stamens, 4–5 mm long. *Style* 16–20 mm long, with a beard of simple hairs below apex; stigma slightly enlarged, rounded. *Ovules* 6, basally attached. (Figure 1)

Other specimen examined. WESTERN AUSTRALIA: type locality, 13 Sep. 1999, J. Rowley & I. Lyon s.n. (PERTH).

Distribution. Known only from the type locality in the southern Gibson Desert, Western Australia. (Figure 2)

Habitat. Grows on a rocky outcrop in lateritic skeletal soil over sandstone and shale, with tall open shrubland of *Callitris glaucophylla* and *Acacia aneura* and lower shrubs such as *Acacia grasbyi*, *Calytrix*, *Eremophila*, *Ptilotus* and *Dodonaea*.

Flowering period. Flowers September and October. The flowers produce copious nectar.

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority One. Known from only the type locality where some 50 plants were recorded.

Etymology. The Latin *mirabilis* refers to the wonder and astonishment of discovering a species of *Verticordia* so far beyond the previously known occurrence of the genus, in a desert habitat.

Notes. This very striking species belongs to subg. *Eperephes* A.S. George and seems best placed in sect. *Integripetala* A.S. George. It necessitates an amendment to the circumscription of the section (George 1991: 279), in particular to include the 5-ribbed hypanthium with large swellings at the top, and the ovary with 6 ovules. Also, the flowers are few in the upper axils, rather than in corymb-like groups, and the style is long-exserted (included in other species of the section). The species of the section are, however, a somewhat disparate group, and further research may result in an amended sectional classification for them.

Verticordia mirabilis differs from the other four species of section *Integripetala* in the five prominent swellings on the hypanthium that superficially resemble the reflexed appendages on the hypanthium in sections *Verticordella* Meisn., *Corynatoca* A.S. George and *Pennuligera* Meisn. The reflexed sepal auricles, very long style and burgundy red flowers also set the new species apart.



Figure 1. *Verticordia mirabilis* A – flowering branch (x1); B – hypanthium showing swellings and ribs (x5); C – part of androecium showing stamens and staminodes (x5); D – style showing subterminal beard (x3). Drawn from E.A. George 2/99 et al. by Margaret Pieroni.



Figure 2. Distribution of *Verticordia* showing the locality of *V. mirabilis* ▼.

Verticordia mirabilis is probably related most closely to *V. interioris* C.A.Gardner ex A.S.George. The latter also occurs in the Eremaean Botanical Province but in the pastoral districts farther west, between Gascoyne Junction and Leonora, and differs especially in its smaller, pink or purplish flowers with a much shorter style.

In the systematic classification of George (1991: 282, 283), *V. mirabilis* would be placed between *V. interioris* and *V. picta* Endl. Another species of this section, the cream-flowered *V. helmsii*, occurs well into the Eremaean Botanical Province as far as Queen Victoria Spring on the southern edge of the Great Victoria Desert.

Another species of Eremaean distribution, *Verticordia jamiesonii*, was collected at the same locality as *V. mirabilis*. This species has previously been recorded from Mt Hale, Mt Narryer, Jingemarra, Kalli and Melangatta Station, some 800 to 900 km west of this locality. The specimens match those of previous collections except in having 6 rather than 8 or 9 ovules (the circumscription of the monotypic section *Jamiesoniana* A.S.George should be amended accordingly).

In the key to species of George (1991), *V. mirabilis* keys out to lead 61b (p. 264), and may then be distinguished as follows:

- 61b (bis) a Flowers red, 20–23 mm diam.; hypanthium 4–5 mm long; sepals 10–11 mm long; petals 8–11 mm long; style 16–20 mm long **V. mirabilis**
- 61b (bis) b Flowers pink, purple or white, 10–14 mm diam.; hypanthium 1.5–2 mm long; sepals 3.5–5.5 mm long; petals 2.5–7 mm long; style 2–4 mm long **couplet 63**

Acknowledgements

The species was discovered by Ian Lyon and Jan Rowley. Margaret Pieroni has provided yet another example of her fine botanical art.

References

Craven, L.A. (1987). A taxonomic revision of *Calytrix* Labill. (Myrtaceae). *Brunonia* 10: 1–138.
George, A.S. (1991). New taxa, combinations and typifications in *Verticordia* (Myrtaceae: Chamelauciae). *Nuytsia* 7: 231–394.